

or more functions. For instance, user interface system **606** can include a driver (e.g., speaker) for outputting sound to a user, microphone for inputting sound from the environment or the user, and any other suitable input and output device. Communication system **608** can include Bluetooth components for enabling housing **605** to send and receive data/commands from host device **630**. Sensor system **610** can include optical sensors, accelerometers, microphones, and any other type of sensor that can measure a parameter of an external entity and/or environment.

[0032] Housing **605** can also include a battery **612**, which can be any suitable energy storage device, such as a lithium ion battery, capable of storing energy and discharging stored energy to operate housing **605**. The discharged energy can be used to power the electrical components of housing **605**. In some embodiments, battery **612** can also be charged to replenish its stored energy. For instance, battery **612** can be coupled to power receiving circuitry **614**, which can receive current from receiving element **616**. Receiving element **616** can electrically couple with a transmitting element **618** of a case **603** in embodiments where receiving element **616** and transmitting element **618** are configured as exposed electrical contacts. Case **603** can include a battery **622** that can store and discharge energy to power transmitting circuitry **620**, which can in turn provide power to transmitting element **618**. The provided power can transfer through an electrical connection **628** and be received by power receiving circuitry **614** for charging battery **612**. While case **603** can be a device that provides power to charge battery **612** through receiving element **616**, in some embodiments, case **603** can also be a device that houses wireless listening device **601** for storing and provide protection to wireless listening device **601** while it is stored in case **603**.

[0033] Case **603** can also include a case computing system **619** and a case communication system **621**. Case computing system **619** can be one or more processors, ASICs, FPGAs, microprocessors, and the like for operating case **603**. Case computing system **619** can be coupled to power transmitting circuitry **620** for operating the charging functionalities of case **603**, and case computing system **619** can also be coupled to case communication system **621** for operating the interactive functionalities of case **603** with other devices, e.g., housing **605**. In some embodiments, case communication system **621** is a Bluetooth component, or any other suitable communication component, that sends and receives data with communication system **608** of housing **605**, such as an antenna formed of a conductive body. That way, case **603** can be apprised of the status of wireless listening device **601** (e.g., charging status and the like). Case **603** can also include a speaker **623** coupled to case computing system **619** so that speaker **623** can emit audible noise capable of being heard by a user for notification purposes.

[0034] Host device **630**, to which housing **605** is an accessory, can be a portable electronic device, such as a smart phone, tablet, or laptop computer. Host device **630** can include a host computing system **632** coupled to a host memory bank **634** containing lines of code executable by host computing system **632** for operating host device **630**. Host device **630** can also include a host sensor system **636**, e.g., accelerometer, gyroscope, light sensor, and the like, for allowing host device **630** to sense the environment, and a host user interface system **638**, e.g., display, speaker, buttons, touch screen, and the like, for outputting information to and receiving input from a user. Additionally, host device

630 can also include a host communication system **640** for allowing host device **630** to send and/or receive data from the Internet or cell towers via wireless communication, e.g., wireless fidelity (WIFI), long term evolution (LTE), code division multiple access (CDMA), global system for mobiles (GSM), Bluetooth, and the like. In some embodiments, host communication system **640** can also communicate with communication system **608** in housing **605** via wireless communication line **642** so that host device **630** can send sound data to housing **605** to output sound, and receive data from housing **605** to receive user inputs. Communication line **642** can be any suitable wireless communication line such as Bluetooth connection. By enabling communication between host device **630** and housing **605**, wireless listening device **601** can enhance the user interface of host device **630**. FIG. 5 illustrates an example of a representative portable electronic listening device system.

[0035] While certain aspects have been described and shown in the accompanying drawings, it is to be understood that such embodiments are merely illustrative of and not restrictive on the broad invention, and that the invention is not limited to the specific constructions and arrangements shown and described, since various other modifications may occur to those of ordinary skill in the art. The description is thus to be regarded as illustrative instead of limiting. In addition, to aid the Patent Office and any readers of any patent issued on this application in interpreting the claims appended hereto, applicants wish to note that they do not intend any of the appended claims or claim elements to invoke 35 U.S.C. 112(f) unless the words “means for” or “step for” are explicitly used in the particular claim.

1. An acoustic mesh comprising:
 - a first portion that is acoustically closed, the first portion is acoustically closed by coupling a support member to the first portion; and
 - a second portion that surrounds the first portion and is acoustically open, wherein the acoustic mesh provides a wind noise attenuation of 10 decibels or less.
2. The acoustic mesh of claim 1 wherein the first portion is at a center of the acoustic mesh.
3. The acoustic mesh of claim 1 wherein the second portion comprises a surface area that is at least 1 percent a total surface area of the acoustic mesh.
4. The acoustic mesh of claim 1 wherein the second portion is near a perimeter of the acoustic mesh.
5. The acoustic mesh of claim 1 wherein the second portion is a ring shaped portion positioned around the first portion.
6. The acoustic mesh of claim 1 wherein the first portion comprises a number of portions that acoustically close different sections of the acoustic mesh.
7. The acoustic mesh of claim 1 wherein the first portion comprises a diameter, and the diameter of the first portion is 1.5 cm or less.
8. The acoustic mesh of claim 1 wherein the acoustic mesh is coupled to an acoustic port of an enclosure that the microphone is positioned within.
9. The acoustic mesh of claim 8 wherein the support member is positioned within an acoustic cavity between the microphone and the acoustic port, and the support member is coupled to an inner surface of the acoustic mesh that faces the acoustic cavity.